

# *epi*TRENDS

A Monthly Bulletin  
on Epidemiology  
& Public Health  
Practice in  
Washington State

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## **Pertussis Case Rate Reaches Highest Level Since 1963; Proportion of Teens and Adults Infected Also Rising**

Pertussis (whooping cough) may be a resurgent disease in Washington State. The 1996 case rate of 14.9 per 100,000 (figure, page 2) is the highest since 1963. During the first half of this year, the incidence of reported pertussis cases continued to climb — a trend that began in 1994. A recent cluster of cases in Spokane County in April coincided with a much larger outbreak in the Panhandle region of Idaho. The degree to which these findings represent a true increase in disease, however, is not clear. Other factors, such as increased awareness by providers, increased case investigation, and increased reliance on newer, less specific tests, could be the cause and are an area of active inquiry.

Pertussis is an acute infectious disease caused by the bacterium *Bordetella pertussis*. Early symptoms include runny nose, low-grade fever, sneezing, and mild cough. The cough progresses, becomes paroxysmal, and often ends with a high-pitched inspiratory whoop. Acute attacks may result in post-tussive vomiting, exhaustion, and cyanosis, particularly in children. Serious complications include secondary bacterial pneumonia (9% of all cases but up to 16% of infants less than six months of age), seizures (1.4%), and encephalopathy (0.1%). In the United States, approximately 34% of pertussis cases are hospitalized and the case fatality rate is 0.2%. Hospitalization

*Continued page 2*

## **Prevention Challenge: Increasing Fruit, Vegetable Intake**

With the arrival of summer, eating more fruits and vegetables is a no sweat, no hassle formula for better health, but one neglected by most Americans — hardly a surprise given the proliferation of heavily marketed fast foods and convenience foods.

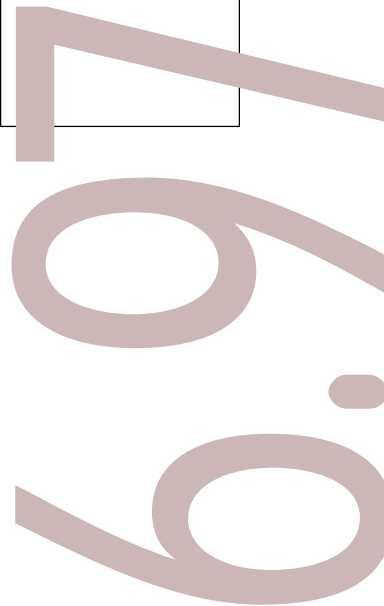
Research suggests that an increase in the intake of fruits and vegetables may be protective against cancer of many sites, including the mouth, pharynx, larynx, esophagus, lung, stomach, colon, rectum, bladder, and cervix. The high fiber content may benefit diabetics and those with diverticular disease. Fruits and vegetables, with their low caloric density and high vitamin and mineral content, may also assist in maintaining desirable body weight if substituted for high-caloric foods.

These abundant benefits prompted the Year 2000 national health objective of increasing consumption of fruits and vegetables to five or more servings per day. Unfortunately, nearly 80% of adults in

Washington fall short of this goal, according to the 1994 Washington State Behavioral Risk Factor Survey (BRFSS). This random-digit-dial telephone survey supported by the Centers for Disease Control and Prevention found that adult Washington residents consumed a median of 3.5 servings of fruits and vegetables per day; only 21% consumed the recommended five or more servings. Women (25%) were more likely than men (18%) to meet or exceed the goal. Intake increased with increasing income and age. Nonsmokers were more likely to meet the five-a-day goal than were smokers (23% vs. 14%, respectively), and a higher percentage of active persons (27%) met the goal compared to sedentary persons (15%).

Washington findings are consistent with national patterns; 1994 BRFSS data from 49 states showed that overall about 22% of adults (26% of women and 18% of men) consumed five or more servings of fruits

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## Pertussis *(from page 1)*

and case-fatality rates are higher in infants than in older children or adults.

The Department of Health received 825 pertussis case reports in 1996. The case rate of 14.9 is a substantial increase over 1995, and is six times higher than the national case rate for 1996. Cases were reported from 28 of Washington's 39 counties; King County recorded the greatest number with slightly less than one-third of all cases. The highest county rates, however, occurred in Yakima (64 cases/100,000), Whatcom (27 cases/100,000), Kitsap (24 cases/100,000), and Pierce (21 cases/100,000).

The proportion of reported cases among infants in Washington is decreasing while the proportion in older age groups is increasing, a trend also noted in other states. Only 19% of cases reported in Washington in 1996 occurred in children less than one year old, compared to 58% in 1993. In contrast, the proportion of cases reported in persons aged 15 years or older rose from 7% in 1993 to 41% by 1996.

In conjunction with the general increase in reported cases, the number of case-patients with complications attributed to the infection also increased in 1996 and includes one infant who died of respiratory complications. The proportion of patients with complications, however, has declined:

approximately 11% of cases reported in 1996 were hospitalized, compared to 39% in 1993. In 1996, 3% of cases had radiographic evidence of pneumonia, while less than 1% developed seizures or encephalopathy.

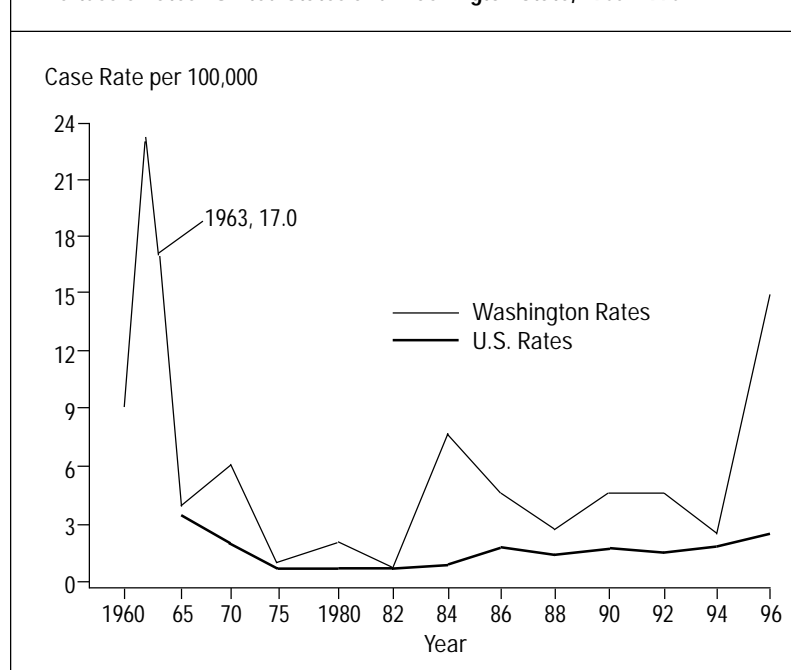
Vaccination remains the cornerstone of pertussis control. More than 20% of persons reported infected in 1996 had been incompletely vaccinated, and at least 10% had not received any pertussis vaccine. Though fully vaccinated persons can become infected, some information suggests that they have milder illness compared to unvaccinated persons. Both nationally and in Washington State, immunization for two-year olds remains below recommended levels. While four doses of DTP are recommended by age 18 months, only an estimated 82% of children ages 19–35 months in Washington State in 1995 received four doses, slightly higher than the national estimate of 79%.

It is hoped that immunization coverage will increase with the recent licensing of the DTaP vaccine (containing acellular pertussis) with reported fewer side effects. In addition, the use of this vaccine in older children and adults is being evaluated, and, if successful, may result in revised recommendations. Regardless of vaccination status, however, all persons with pertussis should be treated with appropriate antibiotics. In addition, close contacts of cases should also receive antibiotic therapy. ♦

### For More Information

For more information about immunizations and vaccines, contact your local health jurisdiction.

**Pertussis Rates: United States and Washington State, 1960–1996**



## Hepatitis B Immunization Rates Are Rising Significantly

The proportion of two-year-old children in Washington State completing three doses of hepatitis B vaccine rose to 67% ( $\pm 4.5\%$ ) in 1995 according to the National Immunization Survey, a random-digit-dial telephone survey conducted by the Centers for Disease Control and Prevention. This is a statistically significant increase over the estimated 48% ( $\pm 4.6\%$ ) completion rate for the period July 1994 to June 1995. The rate exceeds the 1995 National Childhood Immunization Initiative goal of 50% and is close to meeting the 1996 national goal of having 70% of two-year olds protected against hepatitis B.

Hepatitis B is a virus that attacks the liver and can contribute to the development of chronic liver disease or liver cancer. More than 200 cases are reported in Washington State each year.

# Monthly Surveillance Data by County

May 1997\* – Washington State Department of Health

County	E. coli O157:H7	Salmonella	Shigella	Hepatitis A	Hepatitis B	Non-A, Non-B Hepatitis	Meningococcal Disease	Pertussis	Tuberculosis	Chlamydia	Gonorrhea	AIDS	Pesticides†	Lead\$#
Adams	0	0	0	0	0	0	0	0	0	1	0	0	2	0/0
Asotin	0	0	0	0	0	0	0	0	0	2	0	1	0	0/0
Benton	0	1	0	0	1	0	0	0	0	21	0	0	2	0/14
Chelan	0	1	0	1	0	0	0	0	0	3	0	0	3	0/#
Clallam	0	0	0	0	0	0	0	0	0	5	1	2	0	0/#
Clark	1	3	3	0	3	1	0	2	1	30	1	1	0	0/0
Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Cowlitz	0	0	0	0	0	0	0	0	0	3	0	1	0	0/8
Douglas	0	1	0	0	0	0	0	0	0	1	0	0	0	0/0
Ferry	0	2	0	0	0	0	0	0	0	1	0	0	0	0/0
Franklin	0	0	0	2	0	0	0	0	1	13	3	0	3	0/5
Garfield	0	0	0	0	0	0	0	0	0	2	0	0	0	0/0
Grant	0	2	1	0	0	0	1	1	0	19	2	0	1	0/#
Grays Harbor	0	1	0	0	1	0	0	3	0	17	2	0	1	0/0
Island	0	0	0	0	0	0	0	0	0	1	1	0	1	0/0
Jefferson	0	1	0	1	0	0	1	0	0	3	0	0	0	0/0
King	6	38	16	0	0	0	2	3	7	244	49	18	2	2/38
Kitsap	0	2	1	7	1	0	0	0	1	18	1	0	0	0/13
Kittitas	0	0	0	1	0	0	0	0	0	2	0	1	0	0/0
Klickitat	0	0	0	0	0	0	0	0	0	2	0	0	0	0/0
Lewis	0	1	0	0	0	0	0	0	1	6	0	0	1	0/#
Lincoln	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Mason	0	0	0	0	0	1	0	0	0	3	0	0	0	0/0
Okanogan	0	0	3	0	0	0	0	0	0	7	0	0	1	0/0
Pacific	0	0	0	0	0	0	0	0	0	1	1	0	0	0/0
Pend Oreille	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Pierce	0	6	1	2	2	0	1	1	4	100	34	1	1	1/114
San Juan	0	0	0	0	0	0	0	0	0	0	0	0	1	0/0
Skagit	0	2	0	1	3	0	0	0	0	1	1	0	2	0/3
Skamania	0	1	0	0	0	0	0	0	0	1	0	0	0	0/0
Snohomish	0	4	1	1	0	0	0	5	3	28	5	2	1	0/11
Spokane	0	3	2	6	0	0	0	0	0	49	1	0	4	3/34
Stevens	0	3	0	1	0	0	0	0	0	2	1	0	0	0/0
Thurston	0	0	0	1	0	0	0	3	0	14	1	1	1	0/7
Wahkiakum	0	0	0	0	0	0	0	0	0	0	0	0	0	0/0
Walla Walla	0	0	0	0	0	0	0	0	0	7	0	0	0	2/20
Whatcom	1	1	0	1	0	0	0	6	0	1	0	3	3	1/5
Whitman	0	0	0	0	0	0	0	0	0	0	0	0	1	0/0
Yakima	0	23	17	0	0	0	1	6	0	41	2	1	7	3/14
Unknown														0/1

Current Month	8	96	45	25	11	2	6	30	18	649	106	32	38	12/297
May 1996	3	51	20	54	13	1	10	77	30	858	150	38	58	18/822
1997 to date	17	236	88	220	30	11	49	159	122	3814	810	292	98	58/1740
1996 to date	12	207	93	236	46	26	46	139	114	4282	965	315	132	68/1951

\* Data are provisional based on reports received as of May 31, unless otherwise noted.

† Unconfirmed reports of illness associated with pesticide exposure.

\$# Number of elevated tests (data include unconfirmed reports) / total tests performed (not number of children tested); number of tests per county indicates county of health care provider, not county of residence for children tested; # means fewer than 5 tests performed, number omitted for confidentiality reasons.



## WWW Access Tips

The National Cancer Institute offers information on the "5 A Day" program at: <http://www.dccpc.nci.nih.gov/5aday/>

### 1997 Summer Institute for Public Health Practice

The 1997 Summer Institute sponsored by the Northwest Center for Public Health Practice is scheduled for July 21 to August 1. More information is available on the center's Web page at: <http://weber.washington.edu/~nwcphp/dates/htm> or call 206-720-4250.

### Questions? Comments?

Contact the editors at the address on the mailing panel or by email at [function@u.washington.edu](mailto:function@u.washington.edu)

## Fruits and Vegetables *(from page 1)*

and vegetables per day. Although comparable data are not available for Washington State, National Cancer Institute (NCI) data suggest that the consumption of fruits and vegetables has increased nationally from a baseline evaluation in 1989-91 to 1994.

BRFSS data are useful in identifying ways that Washingtonians can take action to improve their health, but the information provided is limited because the data are based on only a few survey questions and on self-report. Despite these limitations, it is clear that Americans in general, including Washingtonians, fall far short of the Year 2000 goals.

To encourage greater consumption of fruits and vegetables and to improve the health of state residents, the Department of Health participates in the "5 A Day for Better Health Project" of the NCI and the Produce for Better Health Foundation, a nonprofit consumer education foundation that represents the fruit and vegetable industry.

The objectives of the Washington "5 A Day" project are to: (1) assess the intake of fruits and vegetables among state residents through population-based surveys such as BRFSS, (2) develop a broad-based coalition that will form a public-private partnership for nutrition activities, (3) develop a process for identifying, selecting, and promoting "5 A Day" activities, and (4) integrate "5 A Day" nutrition activities into existing chronic disease programs within the Department of Health. Through this project the "5 A Day" message is promoted in a variety

of ways including point-of-purchase materials, advertising, food merchandising, recipes, and consumer education brochures.

As with other lifestyle factors such as smoking and exercise, health care providers should ask their patients about their diets, educate them about the benefits of eating fruits and vegetables, and encourage increased intake. To help in these activities, health professionals can obtain the NCI "5 A Day" brochures (in both English and Spanish) by calling NCI at 1-800-4-CANCER. Up to 200 copies can be ordered at no charge. Information about the Washington "5 A Day" program can be obtained by calling Joyce Dougherty at 360-586-9014. ♦

## Sequential Doses of IPV and OPV Polio Vaccines Now Recommended

A two-year review of our country's primary reliance on oral polio vaccine (OPV) has resulted in new guidelines from the U.S. Public Health Service Advisory Committee on Immunization Practices. The ACIP now recommends sequential administration of two doses of inactivated polio vaccine (IPV) at 2 and 4 months of age, followed by two doses of OPV at 12-18 months and 4-6 years. The sequential schedule is expected to reduce cases of paralytic polio associated with OPV by 50-75% or more. Eight or nine OPV-associated cases have been reported in the United States each year, while IPV is not known to cause disease. The shift to a sequential system is possible because progress in global polio eradication has substantially reduced the risk of importation of wild polio virus.

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Bruce Miyahara, MHA  
Secretary  
Mimi L. Fields, MD, MPH  
Deputy Secretary and  
State Health Officer  
Paul Stehr-Green, DrPH, MPH  
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